

Bellwork: 12/13/12

Factor each expression:

1) $3x^2 - 27$

$$\frac{3(x^2 - 9)}{3(x+3)(x-3)}$$

2) $2x^2 + 14x + 24$

$$\frac{2(x^2 + 7x + 12)}{2(x+3)(x+4)} \quad \begin{array}{r} 12 \\ 2 \overline{) 12} \\ 3 \overline{) 6} \\ 4 \end{array}$$

3) $4x^2 + 4x - 15$

$$\begin{array}{r|l} -60 & \\ -1 & 60 \\ 2 & 30 \\ -3 & 20 \\ -4 & 15 \\ -5 & 12 \\ -6 & 10 \end{array}$$
$$(4x^2 - 6x + 10x - 15)$$
$$2x(2x-3) + 5(2x-3)$$
$$(2x+5)(2x-3)$$

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50) $4z^2 - 20z + 25$

$$(4z^2 - 10z) - 10z + 25$$

$$2z(2z-5) - 5(2z-5)$$

$$(2z-5)(2z-5)$$

or

$$(2z-5)^2$$

$$\begin{array}{r|l} 100 & \\ -1 & 100 \\ -2 & 50 \\ -4 & 25 \\ -5 & 20 \\ -10 & 10 \end{array}$$

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$$\textcircled{51} \quad 4x^2 + 16x + 8$$

$$\boxed{4(x^2 + 4x + 2)} \quad \frac{2}{1/2}$$

$$\textcircled{54} \quad 25a^2 - 120a + 144$$

$$(25a^2 - 60a)(-60a + 144)$$

$$5a(5a - 12) - 12(5a - 12)$$

$$(5a - 12)(5a - 12)$$

or

$$(5a - 12)^2$$

$$\frac{3600}{-60 \mid -60}$$

$$\textcircled{58} \quad 9x^2 - 36$$

$$9(x^2 - 4)$$

$$\boxed{9(x+2)(x-2)}$$

$$(3x+6)(3x-6)$$

$$3(x+2)3(x-2)$$

$$\boxed{9(x+2)(x-2)}$$

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$$\textcircled{61} \quad 16t^2 - 16$$

$$16(4t^2 - 1)$$

$$\boxed{16(2t+1)(2t-1)}$$

$$(8t-4)(8t+4)$$

$$4(2t-1)4(2t+1)$$

$$16(2t-1)(2t+1)$$

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Review Packet

#29 $x^4 - 256$

$$(x^2 + 16)(x^2 - 16)$$

$$(x^2 + 16)(x + 4)(x - 4)$$

